

MIC Series 550 Infrared Camera

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BOSCH

Invented for life



- ▶ Choice of 36x or 28x day/night cameras with 550 TVL, 12x digital zoom, Wide Dynamic Range (WDR), advanced privacy masking, image stabilization, and Sodium Vapor White Balance mode that restores objects to their original color
- ▶ Video and control over IP when powered by MIC IP IR Power Supply (sold separately)
- ▶ Twin integrated IR illuminators with 3D Diffuser technology provide even illumination and allow classification of objects up to 100 m (328 ft).
- ▶ Robust design rated to an industry-leading IP68
- ▶ Complete series of mounting accessories; various mounting options, including on-site canting

The MIC Series 550 Infrared camera combines cutting-edge technology with the latest production techniques to provide a class-leading feature set in an economical package. The MIC Series 550 range takes high quality surveillance to new levels of excellence.

As a best-fit camera for virtually any security application, it can be installed in the harshest of environments. Thanks to its IP68-rated aluminum casing, the MIC Series 550 Infrared camera functions perfectly in the most demanding conditions. This tough and vandal-resistant casing provides protection from the elements and physical attack. An integrated, long life silicone wiper, and a reversible rain shield ensure high quality images regardless of the installed environment.

The brushless-motor technology offers ultra-reliable operation with full 360° continuous rotation pan and 186° tilt control for exceptional viewing capability. Small increment pan speeds from just 0.2° per second to 120° per second gives the user precise control. This speed control is especially important when used with video analytic systems, particularly for tracking subjects when fully zoomed in.

The MIC Series 550 Infrared camera incorporates Bosch's standard controller interface supporting familiar AutoDome on-screen menus. This enhancement makes it simple to integrate and use the camera within systems that already use Bosch AutoDome cameras and systems.

When powered by a MIC IP IR Power Supply, the MIC IR camera becomes an IP-enabled device with extra features such as Intelligent Video Analysis (IVA), and the ability to record video on a network-attached RAID iSCSI storage device or locally on a user-supplied SD or SDHC card (32 GB maximum). The optional "hybrid" operation provides video and control of the MIC camera over both analog (Bilinx over coax) and IP connections simultaneously. For more information, see the MIC Series IP Power Supply datasheet on the online Product Catalog at boschsecurity.com.

System overview

Twin integrated IR illuminators

Two 850 nm, long-life, LED Infrared (IR) illuminators attached directly to the camera head illuminate the camera view and allows clear classification of humans

up to 100 m (328 ft) in total darkness, ensuring high quality images regardless of the lighting conditions. Detection of moving objects at up to 150 m (492 ft) is possible.

Robust design rated to an industry-leading IP68

Subjected and certified to rigorous dust and immersion tests (IP68), MIC Series cameras are perfectly suited for installation in even the most unforgiving environments. Reliable 'O' ring seals completely protect the internal components from the external environment, meaning that there is no need to pressurize the camera. To guarantee the seal, the factory subjects each MIC camera to a 100% leak test before shipping. In addition, the cameras' aluminum construction is protected from corrosion by two different processes: first, the cameras receive a coating of Alodine 5200, a chromate-free conversion coating of aluminum that is used in the aerospace and defense industries where a protective layer is required to improve corrosion resistance. Second, they receive a robust, powder coat layer of paint.

Various mounting options, including on-site canting

The MIC Series 550 Infrared camera features twist-lock on-site canting functionality. This allows the camera to be installed upright, inverted, or canted (at a 45° angle) to achieve the perfect field of view. No matter the installation position, the camera will operate faultlessly.

Integrated wiper

Regardless of the weather, the MIC Series 550 Infrared camera is able to capture the highest possible quality image all year long, thanks to its integrated, long-life silicone wiper.

Multi-protocol operation

Compatible with a multitude of protocols, including Bosch "Biphase (OSRD)" and "Bilinx," Pelco "P" and "D," and Forward Vision protocols, the MIC Series 550 Infrared camera integrates seamlessly with existing security systems.

Applications:

- General CCTV
- Town centers
- ANPR systems
- Vandalism prone areas
- Extreme environments
- Rapid deployment
- High security
- Prestigious developments
- Broadcast
- Architectural

Functions

High-performance PTZ day/night cameras

Image control and quality are integral aspects of any PTZ camera, and the MIC Series 550 Infrared camera delivers. The camera is available with a choice of 28X and the industry-leading 36X optical zoom lens, and

offers a full 12X digital zoom. Both camera options provide 550 TVL of horizontal resolution for outstanding clarity and image detail. The cameras also incorporate technology that dramatically improves the dynamic range by 128 times. Also known as Wide Dynamic Range (WDR), it results in clear image reproduction in extreme high-contrast environments. The AutoScaling (proportional zoom) and AutoPivot (automatically rotates and flips the camera) features ensure optimal control.

Day/night capabilities and outstanding sensitivity make the MIC Series 550 Infrared cameras exceptional performers in all lighting conditions. In low light, these cameras automatically switch from color to monochrome by removing the IR filter to boost the infrared illumination sensitivity, while maintaining superior image quality. For operation in the darkest conditions, the SensUp control feature automatically reduces the shutter speed to as little as one second. This increases sensitivity by more than 50 times. In addition to low light applications, the camera is also an exceptional performer when shooting under a sodium vapor lamp (for example, a street lamp or tunnel lamp). Images under these conditions may have a yellowish tint, which may make identification difficult. In the Extended ATW White Balance mode, the MIC Series 550 Infrared camera automatically compensates for the light from a sodium vapor lamp to restore objects to their original color.

With super-quick, 120°/66° per-second pan/tilt speeds, the MIC Series 550 Infrared camera outperforms other domes in its class. The camera supports 99 pre-positions and two styles of Guard Tours: Preset and Record/Playback. The preset tour has capability for up to 99 pre-positions with a configurable dwell time between pre-positions, and can be customized as to the order and frequency each preset is visited. The camera also provides support for two recorded tours, which have a combined duration of 15 minutes of movements. These are recorded macros of an operator's movements, including pan, tilt, and zoom activities, and can be played back in a continuous manner.

Superior privacy masking

The MIC Series 550 Infrared camera allows for a total of 24 individual privacy masks, with up to eight displayed in the same scene. Unlike conventional privacy masks, these can each be programmed with three, four, or even five corners to cover more complex shapes. Each mask changes size and shape smoothly and quickly – ensuring that the covered object cannot be seen. You also have a choice of colors: black, white, and blurred. Blurred comes in handy when privacy is an issue, but determining the presence of motion is still required.

Image Stabilization

As PTZ cameras continue to increase their optical zoom capabilities, image stabilization becomes critical to eliminate movement caused by unstable camera mounts. A mere quarter-inch of movement of the camera mount can shift the field of view by more than 6 m (20 feet) when the camera is zoomed to a high value. This can render images unusable. Image stabilization algorithms included with the MIC Series 550 Infrared camera reduces camera shake in both the vertical and horizontal axis, resulting in exceptional image clarity (pixel displacement up to +/- 10% for frequencies up to 10 Hz). Bosch's unique image stabilization solution does not reduce camera sensitivity, unlike competitive systems.

Ease of installation and servicing

Bosch's innovative software, the Configuration Tool for Imaging Devices (CTFID), allows technicians or operators to control the PTZ, change camera settings, and even update firmware from remote locations without need for additional wiring.

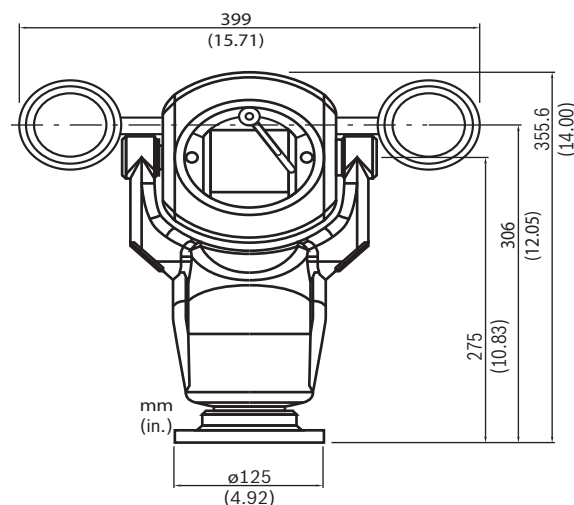
The MIC Series 550 Infrared camera has advanced built-in diagnostics to simplify service and minimize downtime. Using the On Screen Display (OSD), a technician can quickly and easily check critical parameters (such as internal temperature) to verify that the dome is functioning within acceptable operating limits.

Certifications and approvals

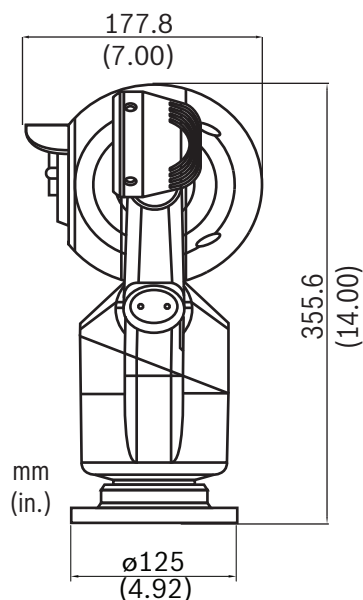
Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations including EN50130-4, EN61000-3-2:2006, EN61000-3-3:1995, and EN55022:2006 inc AL:2007
Safety	Complies with CE regulations, UL, EN, and IEC Standards 60950-1 & 22
Ingress Protection Rating	IP68 (1m submersion for 24 hrs)

Region	Certification
USA	UL

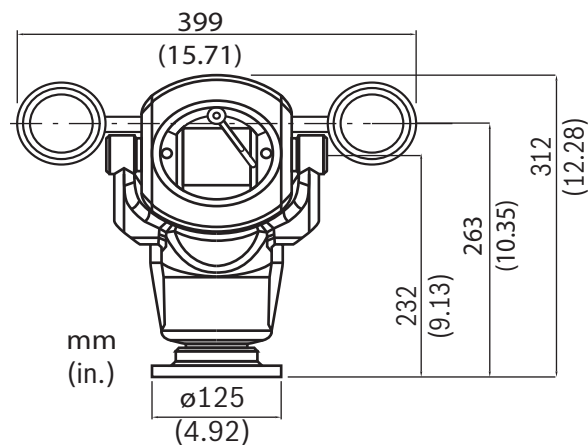
Installation/configuration notes



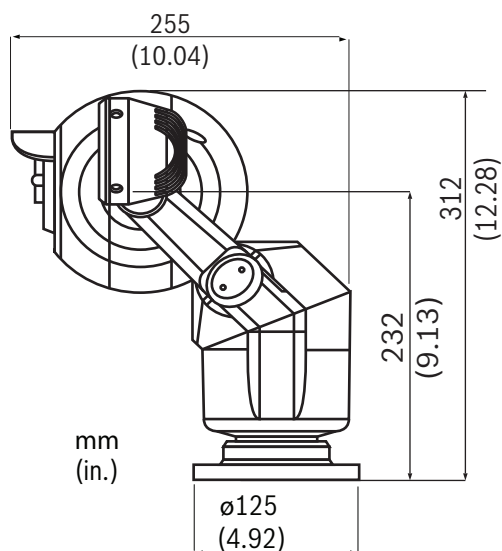
Front detail, 90° (upright)



Side detail, 90° (upright)



Front detail, 45° (canted)



Side detail, 45° (canted)

Technical specifications

Camera - 36x Day/Night

Imager	1/4 in.-type Exview HAD CCD (progressive scan)
Resolution / Effective Picture Elements	PAL: Approximately 440,000; 752(H) x 582(V) NTSC: Approximately 380,000; 768 (H) x 494 (V)
Lens	36x Zoom (3.4 mm to 122.4 mm) F1.6 to F4.5
Zoom Movement Speed	2.1 to 6.2 seconds, depending on model
Focus	Automatic with manual override
Iris	Automatic with manual override
Field of View (FOV)	1.7° to 57.8°
Video Output	1.0 Vp-p, 75 Ohm
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)

Aperture Correction	Horizontal and vertical	
Digital Zoom	12x	
Horizontal Resolution	550 TVL (NTSC, PAL) typical	
Sensitivity (typical) ¹	30 IRE	50 IRE
Day Mode		
SensUp Off	0.66 lux	1.4 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.04 lux	0.1 lux
Night Mode		
With infrared (IR) (B/W)	0 lux	0 lux
SensUp Off	0.104 lux	0.209 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0052 lux	0.0103 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

¹ Unless otherwise stated, test conditions are: F1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC

Camera - 28x Day/Night

Imager	1/4 in.-type Exview HAD CCD (progressive scan)	
Resolution / Effective Picture Elements	PAL: Approximately 440,000; 752(H) x 582(V) NTSC: Approximately 380,000; 768 (H) x 494 (V)	
Lens	28x Zoom (3.5 to 98.0 mm) F1.35 to F3.7	
Zoom Movement Speed	1.7 to 4.9 seconds, depending on model	
Focus	Automatic with manual override	
Iris	Automatic with manual override	
Field of View (FOV)	2.1° to 55.8°	
Video Output	1.0 Vp-p, 75 Ohm	
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)	
Aperture Correction	Horizontal and vertical	
Digital Zoom	12X	
Horizontal Resolution	550 TVL (NTSC, PAL) typical	
Sensitivity (typical) ²	30 IRE	50 IRE
Day Mode		
SensUp Off	0.33 lux	0.66 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.02 lux	0.04 lux

Night Mode			
With infrared (IR) (B/W)		0 lux	0 lux
SensUp Off		0.066 lux	0.166 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)		0.0026 lux	0.0082 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps		
Signal-to-Noise Ratio (SNR)	>50 dB		
White Balance	2000 K to 10,000 K		

2 Unless otherwise stated, test conditions are: F1.35, shutter = NTSC 1/60s, PAL 1/50s; max AGC

IR Illuminators

LED Array	High-efficiency Surface Mount (SMT) LEDs
Number of LEDs	7 per lamp
Wavelength	850 nm (semi-covert)
Beam Angle	30°
DCRI Performance Range (with SensUp ON)	Detection: 150 m (492 ft) Classification: 100 m (328 ft) Recognition: 75 m (246 ft) Identification: 60 m (197 ft)
Ingress Protection Rating	IP68
Construction Material	Aluminum with Lexan® front window

Mechanical

Drive Unit	Brushless, integral pan/tilt motor drive
Pan Range	360° continuous rotation
Tilt Angle	186.6°
Tilt Range	Upright unit: -58° - +90° Canted unit: -103° - +70°
Variable Speed	Pan: 0.2°/second - 120°/second Tilt: 0.2°/second - 60°/second
Pre-position Speed	120°/second
Preset Accuracy	0.17° (typical)
Proportional Pan / Tilt to Zoom	Yes
Audible Noise	<66 dB

Electrical

	Camera	IR Illuminator
Input Voltage	18 VAC nominal	26 VDC nominal
Power Consumption	18 W maximum	26 W maximum
Current Consumption	1 A maximum	1 A maximum

Miscellaneous

Sectors / Titling	16 independent sectors with 20-character titles/sector
Privacy Masking	24 individually configurable privacy masks
Pre-positions	99, each with 20-character titles
Camera Setup / Control	RS-485, Bilinx (coax)
Communications Protocols	Bosch (OSRD, Bilinx), Pelco P/ D, Forward Vision (Bosch OSRD requires use of converter device (MIC-BP3, sold separately.))
Guard Tours	Two (2) types of tours: <ul style="list-style-type: none"> Recorded tours - two (2), total duration 15 minutes Preset tour - one (1), consisting of up to 99 scenes, consecutively and (1) customized up to 99 scenes
Window Wiper	Standard
Washer Drive	Optional washer kit (MIC-WKT Kit used with the appropriate HAC-WAS washer pump)
Supported Languages	English, Czech*, Dutch, French, German, Italian, Polish, Portuguese, Russian*, and Spanish

* Available with separate language upload

User Connections

Power, Camera	Via composite cable (sold separately)
Power, IR Illuminator	Via composite cable (sold separately)
Control Data	RS-485 (Twisted pair; Simplex, half and full duplex operation via composite cable) Biphase ± (Optional; requires MIC Biphase module with external power supply.)
Video	Coaxial via composite cable (sold separately)
Alarm Inputs	Four (4) tamper inputs
Relay Outputs	Two (2) relay outputs and washer relay output only with optional alarm card
Alarm Communication	Tamper switch (ground connection)
Software	CTFID software allows direct connection to a USB-equipped PC via the MIC Series PSU over a full du-plex to provide access to all camera functions and useful diagnostic tools.

Environmental

Ingress Protection Rating	IP68
Operating Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Cold Start-up Temperature	-40 °C (-40 °F) (Requires 30-minute warm-up prior to PTZ operations)

Storage Temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Humidity	0-100%
Wind Load	209 km/h (130 mph) (sustained) (Gusts up to 290 km/h (180 mph))
Vibration	IEC60068-2-6, Test Fc: Vibration (sinusoidal), 20m/s ² (2.0g)
Shock	IEC60068-2-7, Test Ea: Shock, 20g

Construction

Dimensions (W x H x D)		
	Upright and Inverted	399 x 355 x 178 mm (15.71 x 14.0 x 7.0 in.)
	Canted	399 x 312 x 255 mm (15.71 x 12.3 x 10.0 in.)
Weight	7.75 kg (17.06 lbs) (including 4 in. pitch circle diameter (PCD) base)	
Viewing Window	Tempered flat glass	
Construction Material	Cast solid aluminum	
Standard Colors	Black (RAL 9005), White (RAL 9010); Grey (RAL 9006, available in specific regions)	
Standard Finish	Alodine 5200 surface treatment with powder coat paint, sand finish	
Window Wiper	Standard, long-life silicone wiper	
Canting	Twist-lock canting secured by two security screws	

Ordering information

MIC-550IRB28N 28X NTSC Infrared Camera, Black
PTZ, day/night, IR, Black, 28X, NTSC
Order number **MIC-550IRB28N**

MIC-550IRW28N 28X NTSC Infrared Camera, White
PTZ, day/night, IR, White, 28X, NTSC
Order number **MIC-550IRW28N**

MIC-550IRB36N 36X NTSC Infrared Camera, Black
PTZ, day/night, IR, Black, 36X, NTSC
Order number **MIC-550IRB36N**

MIC-550IRW36N 36X NTSC Infrared Camera, White
PTZ, day/night, IR, White, 36X, NTSC
Order number **MIC-550IRW36N**

MIC-550IRB28P 28X PAL Infrared Camera, Black
PTZ, day/night, IR, Black, 28X, PAL
Order number **MIC-550IRB28P**

MIC-550IRG28P 28X PAL Infrared Camera, Grey
PTZ, day/night, IR, Grey, 28X, PAL
Note: Available in specific regions only.
Order number **MIC-550IRG28P**

MIC-550IRW28P 28X PAL Infrared Camera, White
PTZ, day/night, IR, White, 28X, PAL
Order number **MIC-550IRW28P**

MIC-550IRB36P 36X PAL Infrared Camera, Black
PTZ, day/night, IR, Black, 36X, PAL
Order number **MIC-550IRB36P**

MIC-550IRG36P 36X PAL Infrared Camera, Grey
PTZ, day/night, IR, Grey, 36X, PAL
Note: Available in specific regions only.
Order number **MIC-550IRG36P**

MIC-550IRW36P 36X PAL Infrared Camera, White
PTZ, day/night, IR, White, 36X, PAL
Order number **MIC-550IRW36P**

Accessories

MIC Cable 2M
2 meter (6.56 ft) composite cable with plug for power, data and video for MIC Series cameras
Order number **MIC-CABLE-2M**

MIC Cable 10M
10 meter (32.81 ft) composite cable with plug for power, data and video for MIC Series cameras
Order number **MIC-CABLE-10M**

MIC Cable 20M
20 meter (62.62 ft) composite cable with plug for power, data and video for MIC Series cameras
Order number **MIC-CABLE-20M**

MIC Cable 25M
25 meter (82.02 ft) composite cable with plug for power, data and video for MIC Series cameras
Order number **MIC-CABLE-25M**

MIC-IR-24PSU-UL 24 VAC Camera/IR Power Supply
24 VAC, 50/60 Hz power supply for MIC Series cameras with Infrared Illuminators
Order number **MIC-IR-24PSU-UL**

MIC-IR-115PSU-UL 115 VAC Camera/IR Power Supply
115 VAC, 50/60 Hz power supply for MIC Series cameras with Infrared Illuminators
Order number **MIC-IR-115PSU-UL**

MIC-IR-240PSU-UL 240 VAC Camera/IR Power Supply
230 VAC, 50/60 Hz power supply for MIC Series cameras Infrared Illuminators
Order number **MIC-IR-240PSU-UL**

MIC IP IR Power Supply 115 VAC
115 VAC, 60 H, IP-enabled power supply for MIC Series cameras with Infrared Illuminators
Order number **MIC-IPIR-PS-115**

MIC IP IR Power Supply 230 VAC
230 VAC, 50/60 Hz, IP-enabled power supply for MIC Series cameras with Infrared Illuminators
Order number **MIC-IPIR-PS-230**

MIC IP IR Power Supply 24 VAC

24 VAC, 50/60 Hz, IP-enabled power supply for MIC Series cameras with Infrared Illuminators
Order number **MIC-IPIR-PS-24**

MIC-DCA-BD Deep Conduit Adapter, Black

Deep conduit adapter for 4 in. PCD base, black sand finish (RAL9005)
Order number **MIC-DCA-BD**

MIC-DCA-WD Deep Conduit Adapter, White

Deep conduit adapter for 4 in. PCD base, white sand finish (RAL9010)
Order number **MIC-DCA-WD**

MIC-DCA-GD Deep Conduit Adapter, Grey

Deep conduit adapter for 4 in. PCD base, grey sand finish (RAL 9006)
Order number **MIC-DCA-GD**

MIC-SCA-BD Shallow Conduit Adapter, Black

Shallow conduit adapter for a MIC-WMB, a MIC-PMB, or a MIC-SPR, black sand finish (RAL9005)
Order number **MIC-SCA-BD**

MIC-SCA-WD Shallow Conduit Adapter, White

Shallow conduit adapter for a MIC-WMB, a MIC-PMB, or a MIC-SPR mount, white sand finish (RAL9010)
Order number **MIC-SCA-WD**

MIC-SCA-GD Shallow Conduit Adapter, Grey

Shallow conduit adapter for a MIC-WMB, a MIC-PMB, or a MIC-SPR, grey sand finish (RAL 9006)
Order number **MIC-SCA-GD**

MIC-SPR-BD Spreader Plate, Black

Aluminum spreader plate suitable for brickwork surface mounting, black sand finish (RAL9005)
Order number **MIC-SPR-BD**

MIC-SPR-WD Spreader Plate, White

Aluminum spreader plate suitable for brickwork surface mounting, white sand finish (RAL9010)
Order number **MIC-SPR-WD**

MIC-SPR-GD Spreader Plate, Grey

Aluminum spreader plate suitable for brickwork surface mounting, grey sand finish (RAL 9006)
Order number **MIC-SPR-GD**

MIC-CMB-BD Corner Mount Bracket, Black

Corner mount bracket, black sand finish (RAL9005)
Order number **MIC-CMB-BD**

MIC-CMB-WD Corner Mount Bracket, White

Corner mount bracket, white sand finish (RAL9010)
Order number **MIC-CMB-WD**

MIC-CMB-GD Corner Mount Bracket, Grey

Corner mount bracket, grey sand finish (RAL 9006)
Order number **MIC-CMB-GD**

MIC-WMB-BD Wall Mount Bracket, Black

Wall mount bracket, black sand finish (RAL9005)
Order number **MIC-WMB-BD**

MIC-WMB-WD Wall Mount Bracket, White

Wall mount bracket, white sand finish (RAL9010)
Order number **MIC-WMB-WD**

MIC-WMB-GD Wall Mount Bracket, Grey

Wall mount bracket, grey sand finish (RAL9006)
Order number **MIC-WMB-GD**

MIC-PMB Pole Mount Bracket

Pole mount bracket (includes 2 x 455 mm stainless steel banding straps for pole diameters 75 to 145 mm)
Order number **MIC-PMB**

MIC-BP3 Biphase Converter

Biphase converter for IR power supplies or non-IR power supplies without a free expansion slot available
Order number **MIC-BP3**

MIC-ALM Alarm and Washer Pump Drive Card

8 Input alarm and washer pump drive card for PSU (Not for IR PSU)
Order number **MIC-ALM**

MIC-WKT-IR Washer Kit

Washer kit for infrared power supplies only (includes washer nozzle and mounting brackets for wall or 4 in. PCD base)
Order number **MIC-WKT-IR**

HAC-WAS05-20 24 VAC Washer

24 VAC washer inst. 4M 25L
Order number **HAC-WAS05-20**

HAC-WAS30-50 230 VAC Washer

230 VAC washer inst. 30M 25L
Order number **HAC-WAS30-50**

MICUSB485CVTR2 USB to RS485 Signal Converter

USB to RS485 signal converter to allow MIC Series cameras to connect to a PC, supplied with each camera
Order number **MICUSB485CVTR2**

VP-USB Cable

USB to BNC adaptor
Order number **VP-USB**

VG4-SFPCKT Fiber Optic Ethernet Media Converter Kit

Ethernet media converter video transmitter/data receiver fiber optic kit
Order number **VG4-SFPCKT**

Software Options**VP-CFGSFT Configuration Tool for Imaging Devices**

Camera configuration software for use with Bilinx cameras
Order number **VP-CFGSFT**

MVC-FIVA4-ENC1

IVA 4.xx/5.xx VCA software license for single channel encoder (e-license)

Order number **MVC-FIVA4-ENC1**

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